



DIVISION OF
CORPORATION FINANCE
MAIL STOP 3561

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-3561

April 27, 2009

By U.S. mail and facsimile

Mr. Corey Conn
Chief Financial Officer
Imagin Molecular Corporation
3 Grant Square, Suite 315
Hinsdale, Illinois 60521

Re: Imagin Molecular Corporation
Form 10-K for Fiscal Year Ended December 31, 2008
Filed April 15, 2009
File No. 000-23873

Dear Mr. Conn:

We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filings. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year Ended December 31, 2008

Item 9A. Control and Procedures, page19

1. We note that you concluded there were material weaknesses in your disclosure controls and procedures and internal control over financial reporting. However, it does not appear that you stated whether or not your disclosure control and procedures and internal control over financial reporting were effective as of December 31, 2008. Please amend your Form 10-K for the year ended December 31, 2008, to conclude, if true, that your

Mr. Corey Conn
Imagin Molecular Corporation
April 27, 2009
Page 2

disclosures and procedures and internal controls over financial reporting were not effective as of the end of the period covered by the report. Refer to Items 307 and 308T(a)(3) of Regulation S-K for additional guidance.

Signatures

2. The individual operating in the capacity of principal accounting officer or controller should be so designated. Please designate this officer in an amendment to your Form 10-K for the year ended December 31, 2008. Refer to Instruction D(2) to Form 10-K.

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

You may contact Steve Lo at 202-551-3394 or Ryan Milne at 202-551-3688 if you have questions regarding these comments and related matters. Please contact me at 202-551-3871 with any other questions.

Sincerely,

Tia Jenkins
Senior Assistant Chief Accountant
Office of Beverages, Apparel and
Health Care Services

Cc: Mr. Peter Campitiello, Esq.
Via fax number 212-216-8001